

I CLAIMS:

1. (Amended) An access control security system comprising:
 - a) a control panel;
 - b) a plurality of access control groups, each access control group interconnected to the control panel on an independent multi-wire data bus, each access control group comprising:

an access interface unit comprising:

data output means for transmitting data onto the data bus to the control panel,

data input means for receiving data via the data bus from the control panel,

processing means, interoperating with the data output means and the data input means, for operating data transfers over the data bus, the processing means adapted to generate a data message for transmission onto the data bus via the data output means, the data message comprising a Wiegand message field in accordance with the Wiegand protocol ~~and an extended data field~~;

wherein at least one of said access interface units is further adapted to implement an extended data field along with the Wiegand message field, and

wherein the control panel is adapted to communicate with each access interface unit to determine if the access interface unit is capable of implementing the extended data field, and

if the control panel determines that the access interface unit is not capable of implementing the extended data field, then the control panel communicates with that access interface unit in accordance with only the Wiegand protocol, and

if the control panel determines that the access interface unit is capable of implementing the extended data field, then the control panel communicates with that access interface unit in accordance with the Wiegand protocol and the extended data field.

2. (Original) The system of claim 1 wherein the extended data field comprises a status information field indicative of a status condition of the access interface unit.
3. (Original) The system of claim 1 wherein the access interface unit further comprises user ID reading means for reading an ID device.
4. (Original) The system of claim 3 wherein the ID reading means is configured to read an access control card.
5. (Original) The system of claim 3 wherein the ID reading means is configured to read a data transponder.
6. (Original) The system of claim 3 wherein the ID reading means is configured to read a data-carrying key fob.
7. (Original) The system of claim 3 wherein the ID reading means is configured to read biometric data from a user.
8. (Original) The system of claim 3 wherein the processing means interoperates with the ID reading means, and wherein the extended data field further comprises an information field indicative of a property of an ID read by the ID reading means.
9. (Original) The system of claim 1 wherein at least one access control group comprises a plurality of access interface units, and wherein the extended data field comprises address information uniquely identifying each access interface unit in an access control group.

10. (Original) The system of claim 1 wherein the processing means is further adapted to utilize an error detection algorithm as a function of data contained within the extended data field.

11. (Original) The system of claim 10 wherein the error detection algorithm is a cyclic redundancy check (CRC), and wherein the extended data field is appended with the CRC.

12. (Original) The system of claim 2 wherein the access interface unit further comprises user input means for accepting user input functions, and wherein the status condition of the access interface unit indicates a function input by a user via the user input means.

13. (Original) The system of claim 12 wherein the input means comprises at least one pushbutton.

14. (Original) The system of claim 13 wherein the function of the pushbutton is a door bell function.

15. (Original) The system of claim 2 wherein the access interface unit comprises external status input means for accepting external status data from an external device coupled thereto, and wherein the status information field of the extended data field comprises the external status data.

16. (Original) The system of claim 15 wherein the external device is adapted to measure temperature, and wherein the external status data comprises the measured temperature.

17. (Original) The system of claim 15 wherein the external device is adapted to detect a change in light incident thereon, and wherein the external status data comprises data indicative of a change in light.

18. (Original) The system of claim 15 wherein the external device is adapted to detect physical tampering with the access interface unit, and wherein the external status data comprises an tamper indication.
19. (Original) The system of claim 2 wherein the processing means is further adapted to generate supervision data on a periodic basis, and wherein the status information field comprises the supervision data.
20. (Original) The system of claim 2 wherein the processing means is further adapted to detect a malfunction of the access interface unit, and wherein the status information field comprises data indicative of a malfunction.
21. (Original) The system of claim 1 wherein data transfers are made to the control panel using the electrical and information content of the Wiegand protocol via the Data “0” and Data “1” output signals.
22. (Original) The system of claim 1 wherein data transfers are made by the control panel using the electrical characteristics of the Wiegand protocol via the LEDCTL input signal as a serial protocol.